REMARKS/ARGUMENTS

Claims 1-33 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. Applicants respectfully traverse this rejection.

The Examiner has cited Wang as follows

> ".....The developer materials employed in carbonless paper technology are useful in the present invention. Illustrative examples are clay minerals such as acid clay, active clay, attapulgite, etc.; organic acids such as tannic acid, gallic acid, propyl gallate, etc.; acid polymers such as phenol-formaldehyde resins, phenol acetylene condensation resins, condensates between an organic carboxylic acid having at least one hydroxy group and formaldehyde, etc.; metal salts of aromatic carboxylic acids or derivatives thereof such as zinc salicylate, tin salicylate, zinc 2-hydroxy napththoate, zinc 3,5 di-tert butyl salicylate, zinc 3,5-di-(a-methylbenzyl)salicylate., oil soluble metals salts or phenol-formaldehyde novolak resins (e.g., see U.S. Pat. Nos.). 3,672,935 and 3,732,120) such as zinc modified oil soluble phenol-formaldehyde resin as disclosed in U.S. Pat. No. 3,732, 120, zinc carbonate etc. and mixtures thereof. The particle size of the developer material can affect the quality of the image. In one embodiment, the developer particles are selected to be in the range of about 0.2 to 3 microns, preferably in the range of about 0.5 to 1.5 microns. One or more suitable binders selected from polyethylene oxide, polyvinyl alcohol, polyacrylamide, acrylic latices, neoprene emulsions, polystyrene emulsions, and nitrile emulsions, etc. may be mixed with the developer and the microcapsules, typically in an amount of about 1 to 8% by weight, to prepare a coating composition. A preferred developer material is one which provides good compatibility with the microcapsule slurry solution.... It appears from the teachings of the reference that the particles and solvent are present in an amount falling within the scope of the instant claims. Given the teachings of the reference, it would have been obvious to one of ordinary skill in the art to prepare the material of Wang et al choosing to employ a salicylate and styrene (and in amounts falling within the instant claim limitations) with reasonable expectation of achieving a material having better image quality."

Applicants submit that Wang does not disclose or suggest the developer dispersion of the current invention. As a threshold matter, the developer utilized in the current invention is a salicylic acid/styrene copolymer. Such developers are not disclosed in Wang. Wang merely provides a long list of possible developers which does not include a salicylic acid/styrene copolymer.

Wang discusses the use of styrene as a polymeric binder for coating the developer, not as part of the developer particle itself. The type of color developer utilized can be very important. For example, zinc salts alone are not suitable because the molecules are too small to easily make particles of greater than 0.5 microns in a narrow distribution. Such compounds also tend to form highly asymmetrical crystals. Phenol-formaldehyde resin developers can cause yellowing. Polyester polyols cannot be utilized in the presence of heat/humidity and pressure because density decreases dramatically. Further, Wang does not disclose a developer dispersion having a pH of greater than 6, nor does it disclose the necessity of maintaining a pH of greater than 6. Maintaining a pH of greater than 6 in the aqueous suspension minimizes the dissolution of zinc ions into the water phase. Such dissolution leads to a host of imaging defects in the coated article.

A very important aspect of the current invention is the particle size range and the narrow distribution of particles.. While Wang does indicate a range of particle sizes that overlaps with the average particle size range required by Applicants, it does not indicate any preference for a narrow particle size distribution. Furthermore, it merely states that such a size range is desirable; it does not provide any instruction on how to obtain such a particle size range or how to obtain a narrow distribution. Applicants have also demonstrated that the lower range of average particle size preferred by Wang results in lower dye developability.

In contrast, Applicants have discovered a method of making a developer particle that is fast and efficient and that allows for a well-controlled particle size and particle size distribution, and that provides good dispersion stability. The method is a dispersion method that does not require time consuming ball-milling or filtering steps. The method also provides a suspension having high active solids and a minimal amount of dispersing addenda. This provides a concentration of developer particles that is high enough that the dispersion can be utilized without having to concentrate the active components; after manufacturing the composition is ready for coating without further processing. A high content of the developer particles is necessary in the final product in order to achieve the necessary color density after development.

In summary, Wang does not disclose or suggest a developer dispersion made by the method of the invention. It does not suggest a dispersion comprising a surfactant and a polymeric dispersant, nor one that has a pH greater than 6. It does not suggest a dispersion having a particle content of at least 15 %, nor does it suggest a dispersion having a narrow particle size distribution. It also does not suggest the advantages of the current invention. Therefore the current invention cannot be obvious in light of Wang.

In light of the above remarks, Applicants respectfully request that the claims be allowed.

Respectfully submitted,

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